

REMARKS

The Applicants would like to thank the Examiner for the quick and courteous Office Action. The claims remaining in the application are 1-12 and 14. Claims 7 and 10 are amended. Claim 10 was amended to correct an inadvertent grammatical error. Claim 13 is canceled as substantially duplicative and redundant of claim 9. The changes are made for clerical purposes and not for any reason substantially related to patentability.

The Applicants greatly appreciate the Examiner's allowance of claims 8-14.

35 U.S.C. §102(b) Rejection Based on GB 2131067

The Examiner has rejected claims 1, 4, 5 and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by GB 2131067.

The Examiner finds that GB '067 teaches an oil-based drilling fluid which comprises a hydrocarbon, a latex and an emulsifier within the scope of the present invention, referring to the examples and page 1, line 57 to page 2, line 4; and that Applicants' intended use in sand formations allegedly does not distinguish over the prior art.

The Applicants hereby respectfully traverse.

A patent claim is anticipated, and therefore invalid, only when a single prior art reference discloses each and every limitation of the claim. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047, 34 U.S.P.Q.2d 1565 (Fed. Cir.), cert. denied, 116 S.Ct. 516 (1995).

The Examiner's attention is respectfully directed to the fact that independent claim 7 has been amended herein to recite that "the polymer latex is capable of providing a deformable latex film on at least a portion of a subterranean formation". Support for this language is found in claims 1 and 8 of the application as filed, and elsewhere, and thus this addition does not constitute an improper insertion of new matter.

The Applicants respectfully submit that the single GB '067 reference does not disclose each and every limitation of the claims, since GB '067 does not disclose a polymer latex capable of providing a deformable latex film on at least a portion of a subterranean formation. Reconsideration is respectfully requested.

In more detail, GB '067 discloses the addition of minor proportions of a polymer, which is insoluble in water, to oil-based or water-based drilling fluids to improve the

rheological properties of the fluid and/or improve the fluid loss control of the fluid (please see the Abstract therein). In fact, GB '067 consistently teaches and requires that the polymers in their fluids are dispersed and stabilized, *as contrasted* with the Applicants' polymer latexes which provide a deformable latex film on at least a portion of a subterranean formation. The Examiner's attention is respectfully directed to page 2, lines 18-30 of GB '067 which recite:

The polymer itself is preferably used in the form of an *aqueous dispersion* and such *dispersions* may be prepared by a variety of conventional procedures. If the polymer is obtained in the form of a fine-particled *dispersion*, it may be desirable to subject the *dispersion* to a conventional agglomerating procedure as, in general, coarse-particled *emulsions* are preferred to fine-particled *emulsions*. The particle size of the *emulsion* is another factor which will be taken into account on an empirical basis when formulating a drilling fluid for a particular use. If the polymer is available in the form of a dry powder, it may be converted into a *dispersion* either using water or part or all of the drilling fluid.

To use the *polymer dispersion* in an oil-based drilling fluid, *it is necessary to disperse it in the oil, and for this purpose an emulsifier is necessary*. *Polymer dispersions* will normally contain an *emulsifier* added to the preparation of the polymers or subsequently to *stabilise* them, and the drilling fluid will also normally contain a *surfactant* but it is normally necessary to add additional oil-soluble *surfactant to disperse the polymer dispersion* in the oil or oil-based fluid. (Emphasis added; please also see dependent claim 6.)

From this language it is very clear that the polymer dispersions of GB '067 are designed to be stable, and that the polymer is to be dispersed and in suspension.

In contrast, the latex in the invention as recited in claim 1 and the amended claim 7 is not to stay dispersed or in suspension, but rather is to provide a deformable latex film on at least a surface of the subterranean formation. It is respectfully submitted that this is likely not possible if the polymer dispersion is stable as GB '067 instructs. Thus, it is respectfully submitted that the single GB '067 reference does not teach or suggest each and every limitation of the claim, and the instant reference and rejection do not apply and should be withdrawn.

Reconsideration is respectfully requested.

35 U.S.C. §102(b) Rejection Based on Patel

The Examiner has rejected claims 1, 4, 5 and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Pat. No. 4,740,319 to Patel, et al.

The Examiner finds that Patel, et al. teaches an oil-based drilling fluid which comprises a hydrocarbon, a latex and an emulsifier within the scope of the present invention, referring to column 6, lines 1-53. The examples are seen by the Examiner to teach up to 5 ppb of latex material, which would be at least within the scope of greater than about 0.1% of claims 5 and 7. Again, the Examiner finds that Applicants' intended use in sand formations allegedly does not distinguish over the prior art.

The Applicants must again respectfully traverse.

Once more a patent claim is anticipated, and therefore invalid, only when a single prior art reference discloses each and every limitation of the claim. *Glaxo Inc. v. Novopharm Ltd.*, *id.*

The Examiner is respectfully reminded that independent claim 7 has been amended herein to recite that "the polymer latex is capable of providing a deformable latex film on at least a portion of a subterranean formation", as previously described. Of course, claim 1 already contains language to this effect.

The Applicants respectfully submit that the single Patel, et al. reference does not disclose each and every limitation of the claims, since Patel, et al. does not disclose a polymer latex *capable of providing a deformable latex film* on at least a portion of a subterranean formation. Reconsideration is respectfully requested.

In more detail, Patel, et al. is concerned with oil-based drilling fluids characterized by thixotropic properties which result in a yield point of at least 4.0, where the composition includes an oil-base continuous phase and a gelling composition. The gelling composition includes a latex material in combination with one or more functional monomers (please see the Abstract). It is respectfully submitted that Patel, et al. does not teach and is silent about providing a deformable latex film, layer or coating. A *prima facie* case must be put forward by the Examiner; missing facts cannot be assumed, *Ex parte Wolters*, 214 U.S.P.Q. 735 (Bd. App. 1979). It is noted that the oil-base drilling fluid composition of Patel, et al. is taught as stable in column 3, lines 21-32.

In contrast, the polymer latex of the invention recited in claim 1 and amended claim 7 is not to stay dispersed or in suspension, but rather is to provide a deformable latex film on at least a surface of the subterranean formation. Applicants submit that this is likely not possible if the polymer dispersions are always and everywhere stable. Thus, it is respectfully submitted that the single Patel, et al. reference does not teach or suggest each and every limitation of the claim, and the instant reference and rejection do not apply and should be withdrawn. Reconsideration is respectfully requested.

35 U.S.C. §103(a) Rejection Based on GB 2131067 or Patel, et al.

The Examiner has rejected claims 1, 2, 3, 5 and 6 under 35 U.S.C. §103(a) as allegedly being obvious from GB 2131067 or Patel, et al.

GB '067 and Patel, et al. are as described above. The Examiner admits that GB '067 and Patel, et al. differ in that the specific size of the latex particles is not disclosed. The latex in both references is seen to be used in fluid loss control. The Examiner contends that it would be obvious to one of ordinary skill in the art to vary the size of the latex particles of Patel, et al. or GB '067 in order to optimize the fluid loss control of such particles, in various formations encountered while drilling.

The Applicants must again respectfully traverse. To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker*, 977 F.2d 1443, 1445; 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). Applicants respectfully submit that the Examiner has not established such a *prima facie* case herein.

The Applicants would respectfully note that claim 1 and claims dependent thereon specify that the oil-based drilling fluid comprises a polymer latex capable of providing a deformable latex film on at least a portion of a subterranean formation. As has been discussed and established above with respect to both GB '067 and Patel, et al., taken separately, neither of these documents teach or suggest a polymer latex capable of providing a deformable latex film on at least a portion of a subterranean formation. Applicants stipulate that both documents teach that their fluids are useful in fluid loss control. However, neither hint, recommend nor allude to any ability or property that

would permit or cause their fluids to provide a deformable latex film anywhere, much less on at least a portion of a subterranean formation.

Further, the Applicants respectfully submit that the Examiner has not proposed or suggested how the teachings of GB '067 or Patel, et al. should be modified or changed to give the invention recited by the rejected claims. The Applicants respectfully submit that in fact no modification or change may be reasonably proposed because there is nothing *in the references* that suggests that they be modified or changed to give the claimed invention.

In re Chu, 66 F.3d 292,298, 36 U.S.P.Q.2d 1089 (Fed. Cir. 1995) instructs that to properly determine obviousness, even "minor" changes from the prior art must be evaluated in terms of the entire invention, *including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the "minor" changes* that would produce the claimed (or patented) invention. The suggestion or motivation to make the claimed invention "leaps at a person of ordinary skill in the art from thorough inspection" of a complete prior art device, *Para-Ordnance Manufacturing, Inc. v. SGS Importers International, Inc.*, 73 F.3d 1085, 1090, 37 U.S.P.Q. 1237, 1241 (Fed. Cir. 1995). It is respectfully submitted that there is nothing in GB '067 or Patel, et al. that "leaps at a person of ordinary skill in the art" from an inspection of the prior inventions how to modify them to give oil-based drilling fluids comprising a polymer latex capable of providing a deformable latex film on at least a portion of a subterranean formation.

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) cited in *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990), in turn cited by MPEP §2143.01. Again, Applicants respectfully submit that there is nothing in the prior art that suggests the desirability of making the modification that results in the claimed invention, and thus necessary to support a *prima facie* obviousness rejection. For this reason, it is respectfully submitted that the subject rejection must be withdrawn. Reconsideration is respectfully requested.

It is respectfully submitted that the arguments and discussion presented above overcome the restriction requirement and place the claims in condition for allowance. Reconsideration of the restriction requirement, and consideration and allowance of the claims are respectfully requested. The Examiner is respectfully reminded of his duty to indicate allowable subject matter. The Examiner is also invited to call the Applicants' attorney at the number below for any reason, especially any reason that may help advance the prosecution.

Respectfully submitted,
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